

MODULAR FUEL REFORMER WITH REMOVABLE CARRIER

ABSTRACT OF THE DISCLOSURE

A modular fuel reformer comprising a fuel reformer assembly having a cavity; a
5 removable carrier comprising at least one fuel reformer module, the carrier connecting
to the fuel reformer assembly to enclose the at least one module within the cavity; and a
connector engageable to secure the carrier and the fuel reformer assembly in fluid-tight
relationship and easily disengageable to permit removal of the carrier from the fuel
reformer assembly. Any suitable connector can be employed to removably secure the
10 carrier to the fuel reformer assembly, such as a flange with bolt holes, clamps, latches,
retaining springs, a threaded connection, nuts and studs, pins, bayonet-type
engagements, retaining rings, a chuck or collet, a crimped disposable connector, or any
combinations of these. The at least one fuel reformer module preferably comprises a
catalyst module containing a catalyst, such as a fuel reforming catalyst, a water gas shift
15 catalyst, a catalyst for removing carbon monoxide or other contaminants, or a catalytic
burner catalyst. Serviceability of a fuel reformer is improved by designing the reformer
so that catalysts can readily be removed from the reformer for replacement or repair.